



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,913	03/23/2004	Michael L. Fripp	2003-IP-012785 U1 USA	3886
30652	7590	11/02/2006	EXAMINER	
CONLEY ROSE, P.C. 5700 GRANITE PARKWAY, SUITE 330 PLANO, TX 75024			SMITH, MATTHEW J	
			ART UNIT	PAPER NUMBER
			3672	
DATE MAILED: 11/02/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/806,913

Applicant(s)

FRIPP ET AL.

Examiner

Matthew J. Smith

Art Unit

3672

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6, 7 and 56 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 8-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

***Claim Objections***

Claims 2, 11, 13, 15, 36, 53, 55, and 56 are objected to because of the following informalities: These claims recite improper Markush groupings. The correct format for Markush is --selected from the group consisting--, not "comprising".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 and 8-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 1 and 46, claiming two distinct limitations in the alternative is considered indefinite.

Claims 2-5, 8-45, and 47-55 are also considered indefinite since these claims depend from either claim 1 or 46.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3672

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 8, 10, 11, 15, 17, 18, 34, 35, 37, 38, 44-47, and 52-55 are rejected under 35 U.S.C. 102(b) as being anticipated by Scherbatskoy (4416000).

Scherbatskoy discloses an apparatus and method and of preparing an energy storage device for powering a downhole tool 30, comprising: heating an energy storage device or battery 155 to an effective temperature to improve operability of the energy storage device and is a byproduct of an electrical powered process ("when additional heat ... is required."); the effective temperature greater than an ambient temperature in the wellbore near the energy storage device; the energy storage device heated by a non-electrically powered heater (melted electrolyte); the heater positioned proximate the energy storage device; the heat source and the energy storage device surrounded by a metalized-film thermal insulator 157; the heat transfer medium cooled by lowering the medium downhole; the energy storage device heated using heat generated by the discharge of the energy storage device; the energy storage device being battery cells operably connected in an electrical series configuration or in an electrical parallel configuration (col. 3, line 25); the energy storage device heated by converting non-heat energy (e.g., air in jacket 157) to heat energy; a device 160 for generating the energy lowered into the wellbore on an oil field conduit 24; the energy conveyed from the surface; and an electrical load (col. 3, line 23) operably connected to the energy storage device and the downhole tool.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9, 14, 16, 19, 20, 42, 43, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy in view of Blake (4314008).

Scherbatskoy discloses the invention substantially as claimed but not a thermal conductor that extends between the heat source and the energy storage device, the heat source and the energy storage device surrounded by an electrical insulator, the energy storage device heated by changing a temperature of a heat transfer medium positioned proximate the energy storage device causing the heat transfer medium to undergo a phase transformation such that the medium releases or absorbs heat, a heat transfer medium used to regulate thermal loss from the energy storage device; the energy storage device heated by an external heat source, a thermal conductor extending between the heat source and the energy storage device, or a heat pump used to perform both heating and cooling such that a temperature of the energy storage device is regulated to improve its operability.

Blake presents a thermal conductor 45 that extends between a heat source or cooling source, heat pump 16, and an energy storage device 15; the heat source and

Art Unit: 3672

the energy storage device surrounded by an electrical insulator 62; the energy storage device heated by changing the heat transfer medium 45 temperature positioned proximate the energy storage device causing the heat transfer medium to undergo a phase transformation such that the medium releases or absorbs heat; the heat transfer medium used to regulate thermal loss from the energy storage device; and the energy storage device heated by an external heat source 16.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a heat transfer medium and insulator, as presented by Blake, in the Scherbatskoy device in order to design a cell that operates at temperature extremes (Blake, col. 2, lines 5-6).

Claims 12, 49, and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy in view of Ashtiani et al. (6259229).

Scherbatskoy discloses the invention substantially as claimed but not an energy storage device surrounded by an electrical or thermal insulator.

Ashtiani et al. discuss (col. 2, lines 9-10) an energy storage device surrounded by an electrical insulator; a thermal insulator surrounding the heat source and the energy storage device; and an electrical insulator surrounding the energy storage device to extend the ambient temperature range (col. 2, lines 17-18).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a thermal and electrical insulator around the Scherbatskoy battery, as discussed by Ashtiani et al., in order minimize heat loss.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy in view of Ashtiani et al. as applied to claim 12 above, and further in view of Reiss et al. (4692363).

The combination discloses a thermal and electrical insulator around a battery but not an electrical insulator being any of a ceramic solid, ceramic fibers, a glass solid, glass fibers, a polymer solid, polymer fibers, a mineral solid, mineral fibers, a foamed polymer or epoxy, a Dewar flask, a silica aerogel, a dielectric powder, or nanostructured combinations.

Reiss et al. show glass fiber insulation for a battery 18.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a glass fiber for insulation, as shown by Reiss et al., in order to use an insulation withstanding high temperature and having low volume (Reiss et al., col. 2, lines 32-40).

Claims 21-23 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scherbatskoy in view of VanBerg, Jr. (5202194).

Scherbatskoy discloses the invention substantially as claimed but not a fuel cell heated by pre-heating a reactant being supplied to the fuel cell, the reactant pre-heated by heat exchange with the fuel cell, the reactant pre-heated by heat generated by the fuel cell as the reactant passes through a feed line to the fuel cell, or the reactant pre-heated by heat generated by a downhole tool powered by the fuel cell.

VanBerg, Jr. describes a downhole fuel cell 12 heated by pre-heating a reactant, via line 62, being supplied to the fuel cell; the reactant pre-heated by heat exchange with the fuel cell; the reactant pre-heated by heat generated by the fuel cell, at 56, as the reactant passes through a feed line to the fuel cell; and the reactant pre-heated by heat generated by a downhole tool powered by the fuel cell.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use a fuel cell with a heat exchanging system, as described by VanBerg, Jr., in order to power a downhole system

***Allowable Subject Matter***

Claims 6, 7, and 56 are allowed.



Art Unit: 3672

Claims 24--31, 33, 36, 39-41, and 51 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments filed 12 September 2006 have been fully considered but they are not persuasive. The examiner contends "the byproduct of an electrical process" does not define over Scherbatskoy. Scherbatskoy has a thermostatic switch 159 which activates heater 156 when "additional heat ... is required." This "additional heat" implies there is a working temperature within the operating range. During this time, a DC load is attached to the battery. When the battery supplies power to the load, the battery will generate heat and if additional heat is needed, switch 159 closes. Thus, the byproduct heat resulting from powering the DC load anticipates claims 1 and 46. Scherbatskoy heats the jacket when the battery does not provide the requisite amount of heat. Further, if the battery did not generate any heat, then Scherbatskoy would not need a thermostatic switch.

The comment about melting the electrolyte is not convincing. This melting step is performed at the surface. While downhole, Scherbatskoy's device functions as claimed.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is 571-272-7034. The examiner can normally be reached on T-F, 9-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3672

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
David Bagnell  
Supervisory Patent Examiner  
Art Unit 3672

MJS *MJS*  
25 October 2006